

# ZJER

## ZIMBABWE JOURNAL OF EDUCATIONAL RESEARCH

### Volume 26 Number 2 July 2014



UNIVERSITY OF ZIMBABWE

**Volume 26, Number 2, July 2014**  
**ISSN 1013-3445**

<b>Contents</b>	<b>Page</b>
Editorial Foreword	
<b><i>Fred Zindi</i></b> (Editor-in-Chief)	<b>147</b>
Cultivating Pedagogical Content Knowledge (PCK) in In-Service Science Teachers: Addressing Deficiencies of 'Teaching as Taught'	
<b><i>Shanah Mompoloki Suping</i></b>	<b>149</b>
Qualitative and Quantitative Paradigms: Intimate Lovers or Distant Cousins?	
<b><i>V. Nyawaranda</i></b>	<b>169</b>
Influence of Indigenous Language on the Mastery of Scientific Concepts and Vocabulary: A Review and Analysis of the Literature	
<b><i>Stuart Greenhalgh &amp; Overson Shumba</i></b>	<b>185</b>
Technical and Vocational Education for Zimbabwe's Rural Development: Issues and Concerns	
<b><i>Washington Mbizvo</i></b>	<b>207</b>
Implications of Socio-Cultural Research Findings for Science Education Reform in Non-Western Developing Countries	
<b><i>Overson Shumba</i></b>	<b>217</b>
On Education and Training Appropriate Information Technology for Developing Societies	
<b><i>F. S. Mhlanga</i></b>	<b>247</b>
Vocationalisation of Secondary Education in Zimbabwe: An Examination of Current Policies, Options and Strategies for the 21 <sup>st</sup> Century	
<b><i>Charles M. Nherera</i></b>	<b>258</b>
Prospects for Technical Education Contributing Towards the Development of Early Childhood Education/Development in Zimbabwe	
<b><i>Peter Kwaira</i></b>	<b>267</b>

# **Prospects for Technical Education Contributing Towards the Development of Early Childhood Education/Development in Zimbabwe**

**Peter Kwaira**

Department of Mathematics and Science Education, University of Zimbabwe

## **Abstract**

*Early Childhood Education/Development (ECE/D) is an area that has continued to receive special attention since independence in Zimbabwe. Among other things, evidence of this includes a development way back in the early 1990s when the University of Zimbabwe (UZ) established links with Concordia University (CU) of Canada in an effort to promote the development of ECE/D in the country. This resulted in exchange programs where lecturers spent time at Concordia and vice-versa. Since then, several workshops have been held in Zimbabwe with special emphasis being concentrated on the nature of activities taking place in pre-school centres around the country. This has also had implications on curriculum development where there has been a strong drive to improve on the syllabus and other related materials. Methodologically, this paper developed from a document analysis of the handbook; 'Curriculum for the Child – Early Childhood Education and Care Programme – Zimbabwe' published by the Ministry of Community Development and Women's Affairs in 1993 and revised in 1999. This is where, for the purposes of this paper, 'Art and Craft' were identified as areas deserving special attention.*

## **Introduction**

Continuing to receive special attention since independence, Early Childhood Education/Development (ECE/D) has remained the bedrock of the Zimbabwean education system. A report by Shaw, Weber and Cleghorn (1992) clearly shows the importance of this field as plans were being crafted back then, in the early 1990s, to establish a special linkage between the University of Zimbabwe (UZ) and Concordia University (CU) of Canada, in an effort to promote the development of ECE/D in the country. A follow-up study by Cleghorn,

Dzvimbo and Weber (1995) reinforced the linkage by focusing on reforms in teacher education, particularly at ECE/D level. On fruition, the long awaited linkage resulted in exchange programs, where lecturers spent time at Concordia and vice-versa. Since then, several workshops have been held in Zimbabwe, specifically focusing on the nature of activities taking place in pre-school centres around the country. This has also had implications on curriculum development, where there has been a strong drive to improve on the syllabus and other related materials. Even today, at the World Bank, ECE/D activities continue to receive high-level support with conference presentations being posted timely on the Bank's ECE/D website [www.worldbank.org/children](http://www.worldbank.org/children) to reach a wide audience globally (Mustard, 2006). The symposium of September 28–29, 2005 entitled 'Early Child Development — A Priority for Sustained Economic Growth and Equity,' was one of several in a series of international gatherings that the World Bank had convened since 1996, specifically focusing attention on ECE/D. This symposium and the publication that followed drew on the collective efforts and knowledge of 180 participants and presenters from 42 countries in all regions of the world, with experts across a range of disciplines relating to ECE/D; including Technical Education (TE) (Mustard, 2006).

Based on the document analysis of the handbook, *Curriculum for the Child – Early Childhood Education and Care Programme – Zimbabwe*, published by the then Ministry of Community Development and Women's Affairs in 1993 and revised in 1999, this paper identifies the 'Art and Craft' (A&C) section as a component deserving special attention, in the interest of ECE/D in Zimbabwe.

A theoretical analysis of several other pieces of literature relating to ECE/D (besides the above mentioned handbook) revealed a lot of opportunities for TE playing a crucial role in the development of the area. It is also from here that the author feels a lot relating to TE, could be injected into ECE/D, given the Zimbabwean context. Specific examples have been drawn from countries like Canada and the United Kingdom (England and Wales) where similar moves have been made.

Basically, the objectives in this paper include the following:

- Critically analysing the present ECE/D syllabus, with a view to see how A&C relates to other areas within the syllabus;
- Justify the need to include A&C in ECE/D; and,
- Identify the specific points at which TE could make a contribution towards the development of ECE/D in as far as A&C is concerned.

## **Methodology and approach to the paper**

As already indicated, this paper was mainly developed from a document analysis of the handbook, *Curriculum for the Child – Early Childhood Education and Care Programme – Zimbabwe*, resulting in the A&C section being identified as an area deserving special attention for the purpose of this paper. The main instrument used for the analysis was a ten-point check-list where the ten chapters of the handbook were closely scrutinized with a view to determine the extent to which they contained sections relating to specific areas in TE. This was then reinforced by a theoretical analysis of various pieces of literature in addition to the handbook.

## **Some theoretical perspectives**

Theoretically, this paper was firmly grounded on perspectives and views from the following thematic issues:

- Art and Craft within the Early Childhood Curriculum; and,
- The Importance of Art and Craft in Early Childhood Education/Development

## **Art and Craft (A&C) within the Early Childhood Curriculum**

A look at the Zimbabwean ECE/D curriculum shows A&C being one area, among many, under the theme Creative Development; another broad aspect, also currently receiving special attention in most ECE/D programmes. Other areas featuring together with A&C under Creative Development include: Music, Movement, Play and Drama (Ministry of Education, Zimbabwe; 1993, Revised 1999). On the whole, the main thread linking all these areas is the issue of 'creativity'.

According to Brunner, all children are by nature and under normal

circumstances, born creative (Good & Brophy, 1990). And, through creativity, a lot of imagination is generated. This is very useful, especially in problem-solving activities such as what we come across when we engage in meaningful A&C. From a critical perspective, considering 'Art' and 'Craft' separately, as disciplines in their respective rights, we see that each of these two areas demands a lot of creativity and imagination in practice. In fact, there is no way one could be said to be engaging in anything meaningful either in 'Art' or in 'Craft' without being creative and imaginative. According to Baynes (1984), this is where young children are never found wanting. Since they are naturally playful, most of their creativity and imagination manifests during 'play'. This is where they usually express themselves freely and without limit (Baynes, 1994).

Since in young children A&C is expressed most effectively through 'play', curriculum planners have in most cases found it fitting to have this area practised within a specially designated playroom or centre. In the Zimbabwean context, it has been recommended within the curriculum that teachers ensure such a room has the following:

- a) paper of different sizes, textures and colours
- b) pieces of wood in various types and sizes
- c) materials for mixing and painting
- d) materials and equipment for holding things together and taking them apart
- e) materials and equipment for drawing and printing (Ministry of Education, Zimbabwe; 1993, Revised 1999)

Also recommended for the playroom, is a variety of work surfaces and a lot of storage space. In some cases this might require an expansion of the physical capacity of the room, depending on the numbers involved. According to Grunewald and Rolnick (2007), such expansion would not always require much additional building, but rather, renovating current structures.

In terms of approach and teaching methodology, it has been suggested within the ECE/D curriculum that teachers should allow children to participate in three main ways; individually, in pairs and in groups (Ministry of Education, Zimbabwe; 1993, Revised 1999). One thing for

certain, the playroom has to accommodate and support a variety of fine motor activities if children are to be kept motivated and encouraged. It is also in this kind of environment that children's imagination and ability to create objects is promoted. Regarding activities, children engage in activities such as drawing, painting, weaving, sewing, knitting and woodworking, for example. This range of activities clearly reflects the wide range of materials that are involved together within the necessary technology.

### **The importance of Art and Craft in Early Childhood Education/Development**

The importance of A&C in ECE/D cannot be over emphasized, being an area in which the main objective is to promote creativity and imagination in young children. As already observed, this area enables children to express their creativity and imagination openly and freely. This in itself is not enough since one might want to go further, finding out what happens after children have gained the ability to create images and objects. Therefore, it is important in this paper to clearly show how the whole country benefits from having its young generation being developed into creative people/citizens.

According to Layton (1992), teaching young people to be creative means developing a generation of problem-solvers. For a country like Zimbabwe, one can see the obvious importance of this, particularly now at a time when government policy through the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimAsset), appears to be in favour of indigenisation and economic empowerment; specifically focusing on youth development. So far, as one of the key strategies towards an empowered society, the government has pledged to ride on the opportunities of the Indigenization and Economic Empowerment Program for the funding of public utilities in communities such as schools, hospitals and other social amenities with the intention of creating employment for youth and women, thereby improving the standards of living of the populace (Government of Zimbabwe, 2013). Of particular interest for the purpose of this paper, the government has also specifically indicated the need to continue improving the quality of education from ECE/D to vocational and tertiary levels, in order to enhance literacy levels and skills

development. At this point, ZimAsset appears totally in agreement with most of the recommendations made by the Nziramasanga Commission on Education (Nziramasanga, 1999).

For many years, this country has suffered from critical shortages of skilled manpower in key sectors and trades; especially in the engineering fields. The situation actually worsened from the days soon after independence when the few whites that were holding these key positions left the country. Mainly due to the discrepancies that existed between the education system for the whites and that for the non-whites, indigenous people could not automatically take over and fill the gaps that were created at that point (Zvobgo, 1986). From independence in 1980, the main challenge for the whole nation has been to redress this problem (Kwaira, 1987).

Also worth noting has been the emphasis placed on technical subjects at all levels within the education system, right from independence up to this day (Kwaira, 1987). This is where the importance of A&C in ECE/D programs becomes vivid. In this case, considering the thrust being placed on technical subjects within our schools, it is obvious that having A&C as part of ECE/D should be taken as one of the possible foundations for further development in technical areas at higher levels, such as engineering at tertiary levels. Although in the past, very little attention has been given to ECE/D programmes in this country, of late there has been a lot of change in terms of attitudes on the part of the whole system (Kwaira, 2008). Indeed, if we begin to have our children engaging in A&C from an early age, we are likely to end up with better artists, artisans, craft-persons, technicians and engineers. This has a lot of implications, especially in terms of approach and methodology in teaching. Of course, the trend in Zimbabwe, as in other parts of the world, has been to try and make the curriculum as problem solving in orientation as possible. That being the case, it also follows that teacher education/training at all levels must also be appropriately geared towards such an end. This could be done during initial teacher education and training or through in-service training. The latter would be mostly interesting and appropriate to those already in schools, among whom we might end up with trainers, who would later play a role in the initial preparation of teachers.



## **The resolve: Technical Education contributing towards Early Childhood Education/Development**

Having seen the importance of A&C in ECTED, it is now necessary to find out how approaches to this area could be enhanced; and this is where TE is likely to play a prominent role.

In this debate, the contribution of TE has been placed into two main categories, namely: curriculum development and teacher education/training. Any context or situation of curriculum change and innovation, usually involves these factors going hand in hand (Kwaira, 2008). Therefore, any adjustments or modifications on either, directly or indirectly affects the other in one way or another. In fact, according to Razik (cited in Kwaira, 1989), among the various problems, which all countries have to face in connection with their education systems, one of the most difficult and – in most cases, unresolved, concerns curriculum design and the corresponding system of teacher education and training.

Thinking progressively, today there is no way we can talk of a successful program in A&C without relating it to Design and Technology (D&T). In the Zimbabwean context, so far, very little has been done to relate A&C to D&T. Most people still consider this subject to be an ordinary pastime where children just relax, having a break after the more challenging subject areas like mathematics and other science areas. Of course today, a few academics are just beginning to see the science and technology involved in A&C, being part of technical subjects (Kwaira, 2008).

Experiences in the United Kingdom have shown that efforts to approach A&C from a progressive angle have resulted in Craft, Design and Technology (C.D.T), especially at elementary and primary levels (Kwaira, 1989). On the other hand, in Zimbabwe, the closest we have come to a serious innovation of a similar nature has been the introduction of D&T under the umbrella of TE. This has so far been confined to the Department of Technical Education at the University of Zimbabwe, Belvedere Teachers' College and a few secondary schools. In this case, D&T has not been brought in as a subject on its own, but merely as an approach within existing subject areas like Woodwork, Metalwork and Building (Kwaira, 1989). Therefore, this is where it has

been seen necessary in this paper to propose D&T being made part of A&C, in terms of approach. In a way, this implies making the teaching of A&C more problem-solving in orientation than ever before.

Having D&T within an existing subject area, as an approach, in the manner proposed here is slightly different from a situation where it is treated as a subject area in its own right. A good example of the later case is the version that has been pursued in England and Wales as already observed. Here, for the purpose of general education, the National Curriculum Council has linked the two ideas or concepts, 'Design' and 'Technology', and has defined their combination as a single curriculum area (Archer et al., 1992). Perhaps, it is at this point that one might need to have an idea of what each of these two terms/concepts actually means.

According to Layton (1992), mankind's collected knowledge about tools of every sort; about the way they work; and about where and how to use them, is what we call 'technology'. Technology, or knowing-how, in this very general sense is related to, but different from science (Archer et al., 1992). Science is, knowing what the case is (regarding the status of a particular phenomenon), making informed judgements as to why things are the way they are, and predicting what is most likely to happen in given circumstances. That being the case, it appears, technology draws on existing knowledge and experience in order to make things happen in a desired way. In fact, one fundamental attribute defining creatures as being human is that they devise, make and use tools to adapt to their environments (Archer et al., 1992). For example, the activity of tool-making and application has made possible, and continues to make possible; sculpture, architecture, agriculture, industry, music, writing, printing, computing, science experimentation, surgery, communicating at a distance, and the recording of knowledge for later use.

On the other hand, if technology is 'knowing-how', then design is 'envisaging-what'. The capacity for envisaging a non-present reality, analysing it and modelling it externally, along with tool-making and language use, is the other great defining characteristic of humankind (Archer et al., 1992). The ability to picture phenomena in the mind; to

comprehend the three dimensional configuration of something, even when seen from only one viewpoint; to perceive order, pattern, connectivity and causation in complex phenomena or systems; to conceive of a construction or arrangement that will meet a need; to invent; to imagine in the mind's eye something which does not yet exist; to capture such a cognitive mode, analyse it, and externalize it through drawings, models, notion or language so as to bring it to realization; shows how sophisticated the human being is. Such abilities are common to all human beings, in at least some measure (Archer et al., 1992). Technology rests and relies heavily on science, from which much of its operational data is drawn, and upon which are modelled many of the intellectual disciplines whereby technology codifies and applies its experience. While it embodies an entirely different mental discipline from technology, design, like science, is a process. It is usually directed towards meeting a particular need, producing a practicable result and embodying a set of technological, economic, marketing, aesthetic, ecological, cultural and ethical values determined by its functional, commercial and social context. At this point, Archer and others (1992:11), maintain: "... to sustain a claim that Design and Technology is a distinctive discipline, we must identify the descriptors that set it apart from other disciplines".

However, this is a debate that is still raging in Zimbabwe today and perhaps, this is not really the place to raise it.

Now, since D&T is already existing as an approach to the teaching and learning of technical subjects as already noted, practitioners in TE could collaboratively help in the design and development of the curriculum to be used in ECE/D programmes, especially relating to A&C. Obviously, a lot of expertise will be required in the production of the necessary literature and other curriculum materials. This in turn has a lot of implications on teacher education and training since it is also important to have appropriately qualified teachers in the relevant areas. As already pointed out, teacher education/training is the other category of possible contributions by TE into ECE/D.

If D&T, as an approach is going to have an influence in the way A&C is handled in pre-school centres, there is need to gear teacher education

and training at that level towards such an approach. D&T requires teachers to be creative, resourceful and flexible (Kwaira, 2008). This is usually useful where such practitioners sometimes find themselves in situations where they experience acute shortages of materials and equipment resulting in them being forced to improvise here and there, and sometimes being forced to substitute imported materials with locally available materials, for example.

Another aspect that could be brought into teacher education and training, where equipment and materials are handled at this level, is the area of Workshop Organization and Management. Here, special emphasis would be paid to issues relating to safety and resource management. Working with young children using tools, especially cutting tools like chisels and saws demands a lot of safety awareness. An interesting observation was made in Canada during an exchange visit by the author in 1996. Several excursions were made to early childhood centres in and around Montreal. Children, some as young as three years, were observed manipulating woodworking tools like saws, chisels, hammers and screw drivers. With some of these tools being so dangerous in nature, one might have wondered how the teachers involved ensured the safety of the children. Well in this case, it was found out that one of the main areas of focus was 'safety'.

### **Implications and recommendations for further research**

Now, given the observations made in this discussion, there seems to be a critical need for further research in order to determine and establish the following, among other activities:

- The specific points at which the Department of Technical Education and the Department of Teacher Education at the UZ could embark on collaborative research for the benefit ECE/D programs in Zimbabwe specifically focusing on technical and manipulative skills development;
- The possibility of developing short-term and long-term courses in the Department of Technical Education to in-service ECE/D teachers, specifically focusing on the principles of D&T in relation to specific technical skills; and,

- The possibility of members in the Department of Technical Education at UZ contributing towards the design and development of an ideal set up of an A&C playroom or activity area in specific Zimbabwean contexts (rural and/or urban), depending of specific needs.

From these broad topical issues, further research would result in the further development of ECE/D in Zimbabwe.

## **Conclusion**

Looking back in this paper, a lot of useful ideas have been brought forward as propositions and suggestions meant to elevate the status of Art and Craft Education at pre-school levels in Zimbabwe. However, it is also important at this point to note that all what has been suggested here can only be a reality with the right teachers in pre-school centres.

According to Garcia and Pence (2010), the validity of any educational system naturally depends upon the quality of teaching and the availability of competent teachers. This is very much in agreement with Coombs (cited in Kwaira, 2008) when he maintains that;

We can usually find enough willing bodies to keep order in the classroom. Our problem is to find enough who can also teach (p. 34).

In a way, this means that the problem of teacher supply is not one of simple numbers. It is first and foremost a problem of quality; getting a large enough quantity of the right quality! One approach identified and suggested by Garcia and Pence (2010) as an effective vehicle to enhance qualitative efficiency in education in general and ECE/D in particular, has been 'an effective network for capacity building, knowledge sharing, and inter-country cooperation'. For Zimbabwe, this is exactly what the linkage between the UZ and CU aimed to achieve; being a typical case of a situation where north-south collaboration, involving mutual exchange programs, resulted in the provision of systematic training and capacity building among cohorts of ECE/D practitioners.

## References

- Archer, B., Baynes, K., & Roberts, P. (1992). *The nature of research into design and technology education*. Department of Design and Technology: Loughborough University of Technology, England.
- Baynes, K. (1994). *Designerly play*. Department of Design and Technology: Loughborough University of Technology, England.
- Cleghorn, Dzvimbo, & Weber (1995). Teacher education reforms in Zimbabwe: Turning to the young child. In L. Schmidt, J. Pollard, & L. Prochner, (Eds.). *Early childhood care and education: Global connections*. Montreal: Garland Press.
- Curriculum for the child: Early childhood education and care programme – Zimbabwe* (1993, Revised 1999). Causeway, Harare: Ministry of Community Development & Women's Affairs.
- Garcia, M., & Pence, A. R. (2010). Developing an international network to support Early Childhood Development (ECD): Results from experience in Africa. CICE Hiroshima University, *Journal of International Cooperation in Education*, 13(2), 119 – 137. Retrieved from: <http://worldbank.org/>
- Good, T. L., & Brophy, J. E. (1990). *Educational psychology – A realistic approach* (4<sup>th</sup> ed.). New York: Longman.
- Government of Zimbabwe, (2013). Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimAsset): Towards an empowered society and a growing economy. Harare: Government Printers.
- Grunewald, R., & Romick, A. (2007). Achieving high returns on early childhood development. In M. E. Young, (Ed.). *Early child development from measurement to action: A priority for growth and equity*. The International Bank for Reconstruction and Development/ THE WORLD BANK: 1818 H Street, N.W.;

Washington, D.C. 20433 USA. Retrieved from  
<<http://minneapolisfed.org/research/studies/earlychild>>. An  
online video of Dr. Rolnick's presentation is available at  
<<http://www.ced.org/projects>>.

Kwaira, P. (1987). *Education and development in Zimbabwe – A study of a new African nation with specific reference to rural development projects in Masvingo Province* (Unpublished B.Ed. dissertation). Plymouth: College of St. Mark and St. John.

Kwaira, P. (1989). *A study of teacher education and the training of technical subject teachers in Zimbabwe* (Published M.Ed dissertation). Sweden: Department of Education and Psychology, Linköping University.

Kwaira, P. (2008). *Effect of a material science course on the perceptions and understandings of teachers in Zimbabwe regarding content and instructional practice in design and technology* (Unpublished PhD thesis). University of the Western Cape: South Africa.

Layton, D. (1992). *Values and design & technology*. Department of Design and Technology: Loughborough University of Technology, England.

Mustard, J. F. (2006). *Early child development and experienced-based brain development: The scientific underpinnings of the importance of early child development in a globalized world*. Washington, D.C.: The Brookings Institution. Final paper version: Online publication: <http://www.brookings.edu/views/papers/200602mustard.htm>

Nziramasaanga, C. T. (1999). *Zimbabwe: Report of the presidential commission of inquiry into education and training*. Harare, Zimbabwe.

Razik, A. T. (1972). *System approach to teacher training and curriculum development – The case of developing countries*.

Paris, UNESCO

Shaw, Weber, & Cleghorn, (1992). *The B Ed. at a distance*. Being a report as at August 13, 1992. Montreal, Canada: Concordia University.

Young, M. E. (Ed.). (2007). *Early child development -- from measurement to action: A priority for growth and equity*. Washington, D.C., World Bank. Retrieved from <<http://www.worldbank.org/children>>

Zvobgo, R. J. (1986). *Transforming education -- The Zimbabwean experience*. Harare, College Press (Pvt.) Ltd.





This work is licensed under a  
Creative Commons  
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:  
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

This is a download from the BLDS Digital Library on OpenDocs  
<http://opendocs.ids.ac.uk/opendocs/>